

## Chronic Disease Indicators: Indicator Definition



### **Pneumococcal vaccination among adults aged $\geq 18$ years with diabetes**

Category:	Diabetes
Demographic Group:	Resident persons aged $\geq 18$ years.
Numerator:	Respondents aged $\geq 18$ years ever told by a doctor or health professional that they have diabetes (excluding women who were told only when pregnant) who report ever having received a pneumococcal vaccination.
Denominator:	Respondents aged $\geq 18$ years ever told by a doctor or health professional that they have diabetes (excluding women who were told only when pregnant, refusals, and unknowns).
Measures of Frequency:	Annual prevalence — crude and age-adjusted (as standardized by the CDC Division of Diabetes Translation to the 2000 U.S. Standard Population, using the direct method) — with 95% confidence interval. Where feasible, 3-year averages were used. Not all states have complete data for each year of monitoring; therefore, each 3-year average estimate is composed of at least two years of data. U.S. estimates are based on single years of data.
Time Period of Case Definition:	Lifetime (ever vaccinated).
Background:	In 2003, approximately 49% of adults with diabetes reported ever receiving a pneumococcal vaccination.
Significance :	Compared with persons without diabetes, mortality from pneumonia and influenza has been demonstrated to be $\geq 7$ times higher among persons with diabetes diagnosed before age 30 years and approximately 2 times higher among persons with diabetes first diagnosed after age 30 years. Adults with diabetes are 3 times more likely to develop serious (invasive) pneumococcal infections than healthy adults. A pneumonia vaccination might prevent or attenuate the clinical course of respiratory illness attributable to <i>Streptococcus pneumoniae</i> .
Limitations of Indicator:	Respondents might not distinguish between influenza and pneumococcal ( <i>Streptococcus pneumoniae</i> ) vaccinations. The reliability and validity of this measure is unknown.
Data Resources:	Behavioral Risk Factor Surveillance System (BRFSS). <a href="http://www.cdc.gov/diabetes/statistics/">http://www.cdc.gov/diabetes/statistics/</a>
Limitations of Data Resources:	Data from multiple years might be aggregated to increase the sample size. As with all self-reported sample surveys, BRFSS data might be subject to systematic error resulting from noncoverage (e.g., lower telephone coverage among populations of low socioeconomic status), nonresponse (e.g., refusal to participate in the survey or to answer specific questions), or measurement (e.g., social desirability or recall bias). The National Health Interview Survey (NHIS) can be used as an alternative data source; however, the size of the sample from NHIS might not be adequate for calculating stable, state-specific estimates.
Healthy People 2010 Objectives:	14-29: Increase the proportion of adults (noninstitutionalized adults aged $\geq 65$ years) who are vaccinated annually against influenza and ever vaccinated against pneumococcal disease. (14-29b is specific for pneumococcal vaccination among noninstitutionalized high risk adults.)

\* See Klein RJ, Schoenborn CA. Age adjustment using the 2000 projected U.S. population. Hyattsville, MD: US Department of Health and Human Services, CDC, National Center for Health Statistics, 2001. Healthy people 2010 statistical notes, no. 20. <http://www.cdc.gov/nchs/data/statnt/statnt20.pdf>